ICARTT Model Forecast and Data Visualization

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Model Forecast Verification Link from ICARTT Web Page

ICARTT International Consortium for Atmospheric Research on Transport and Transformation

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Research Areas

- Regional Air Quality
- Intercontinental Transport
- Radiation Balance

Mobile Platforms

Surface Networks

Measurement Comparison

Satellites

Forecasts

Model Forecast Comparison

Emission Mapviewer 

Model Forecast Comparison

NEAQS-ITCT 2004 Program Model Verification

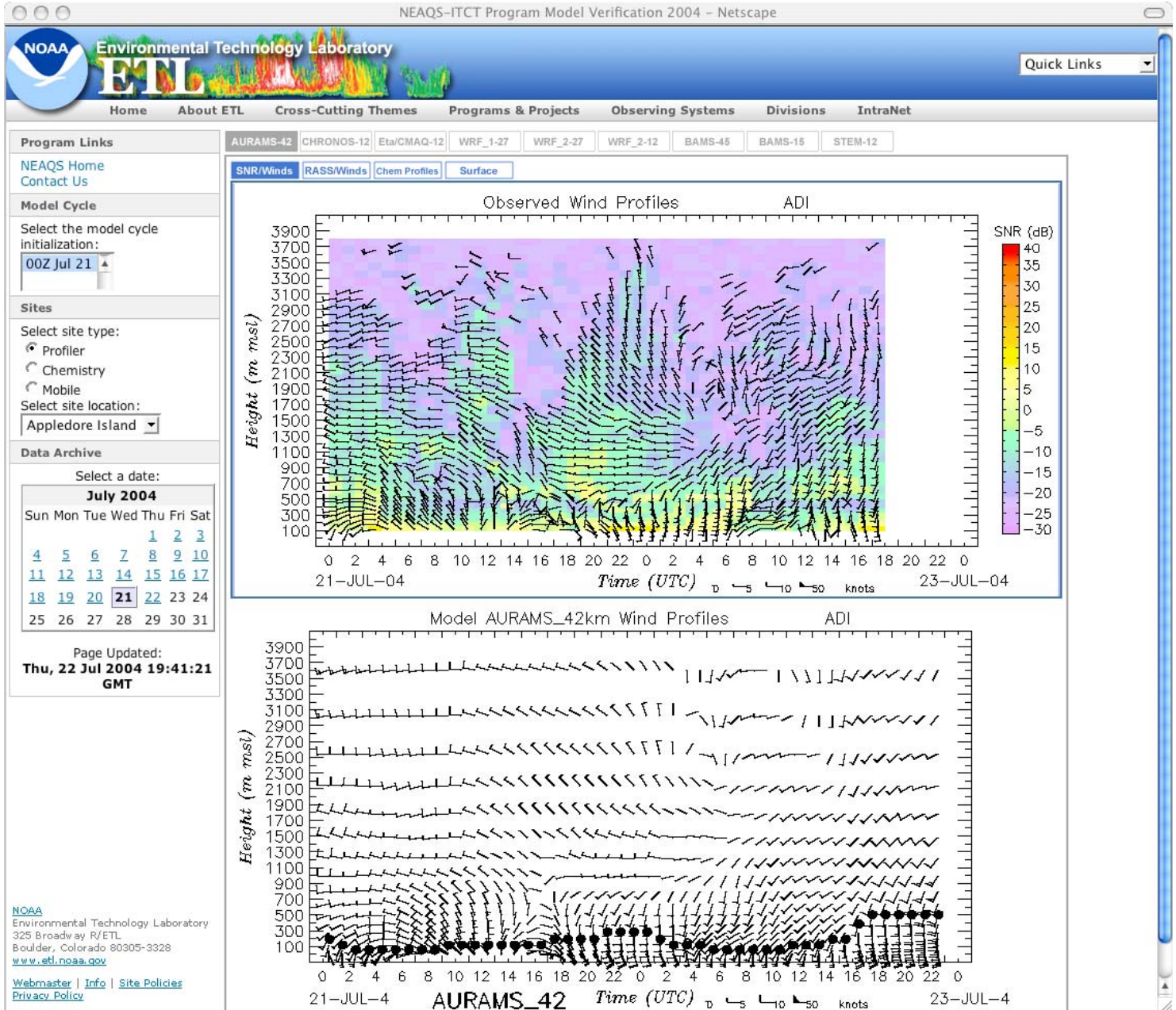
On this web site we will compare model predictions with many of the special meteorological and chemical observations taken during ICARTT: NEAQS-ITCT 2004. These comparisons will be used to assess the fidelity of meteorological and chemical parameterizations within the models. The web site is organized as a cross matrix of the observation types and the models. Each model's 00 and 12 UTC 48 hour forecast is shown as soon as it becomes available, and the data are then added to the plots on an hourly basis as they become available. Ensemble chemical and meteorological forecasts are also displayed, formed as the mean of the various models contributing to ICARTT: NEAQS-ITCT 2004.

The observations fall into three major categories:

1. Wind Profiler Sites - include the 7 ETL and AL land-based wind profilers, where displays of wind and temperature profiles as well as surface meteorology are shown. Surface ozone data is also shown, using data from the nearest AirNow locations.
2. Chemistry Sites - include the AIRMAP locations, and include all major chemical variables measured.
3. Mobile Sites - include the NOAA Ship *Ronald H. Brown* and the NOAA ETL lidar aircraft. For both of these sites ozone lidar profiles are displayed. The *Ronald H. Brown* site also displays the on-board wind profiler and surface meteorology.

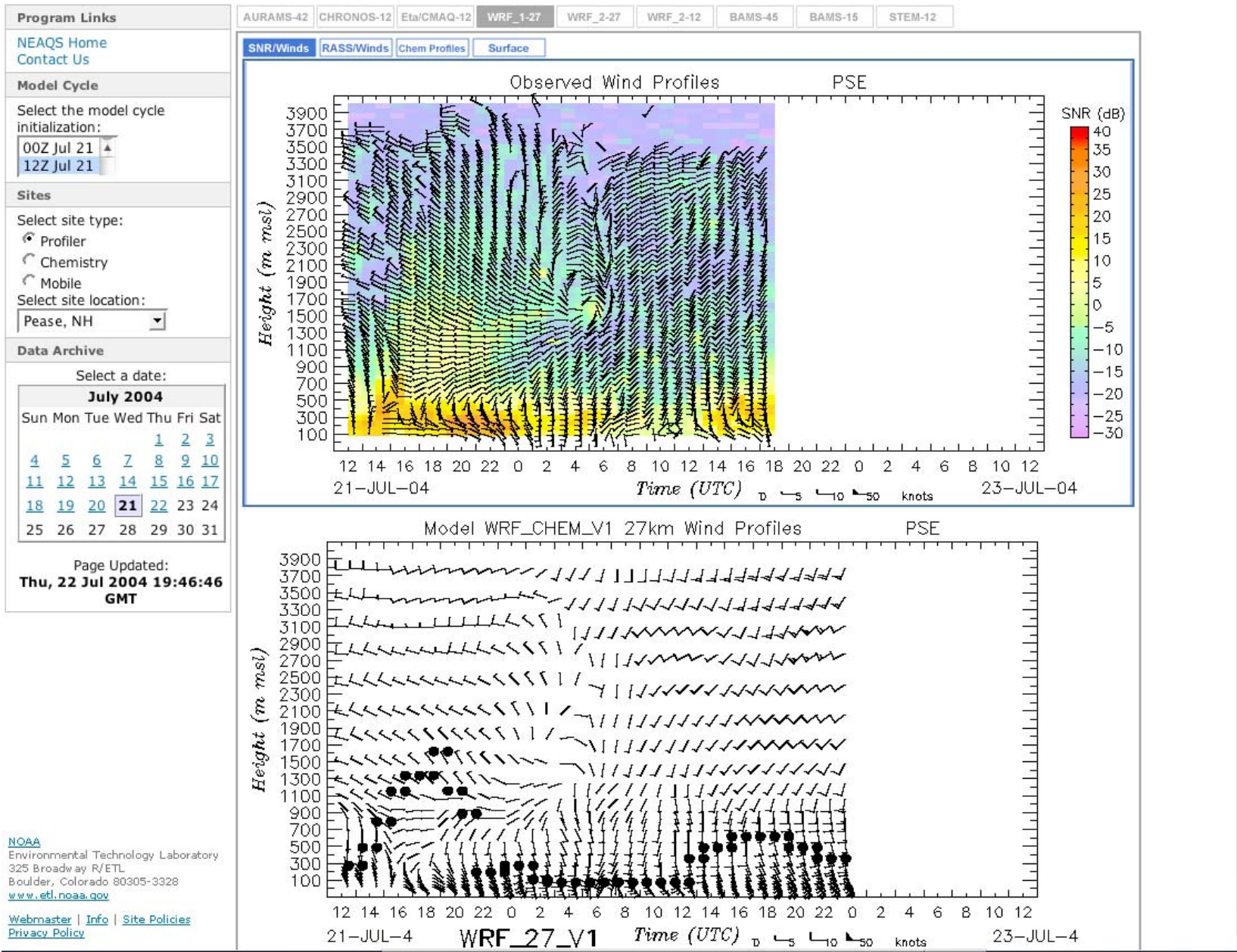
Model Forecast Verification Site

http://www.etl.noaa.gov/programs/2004/neaqs/verification/



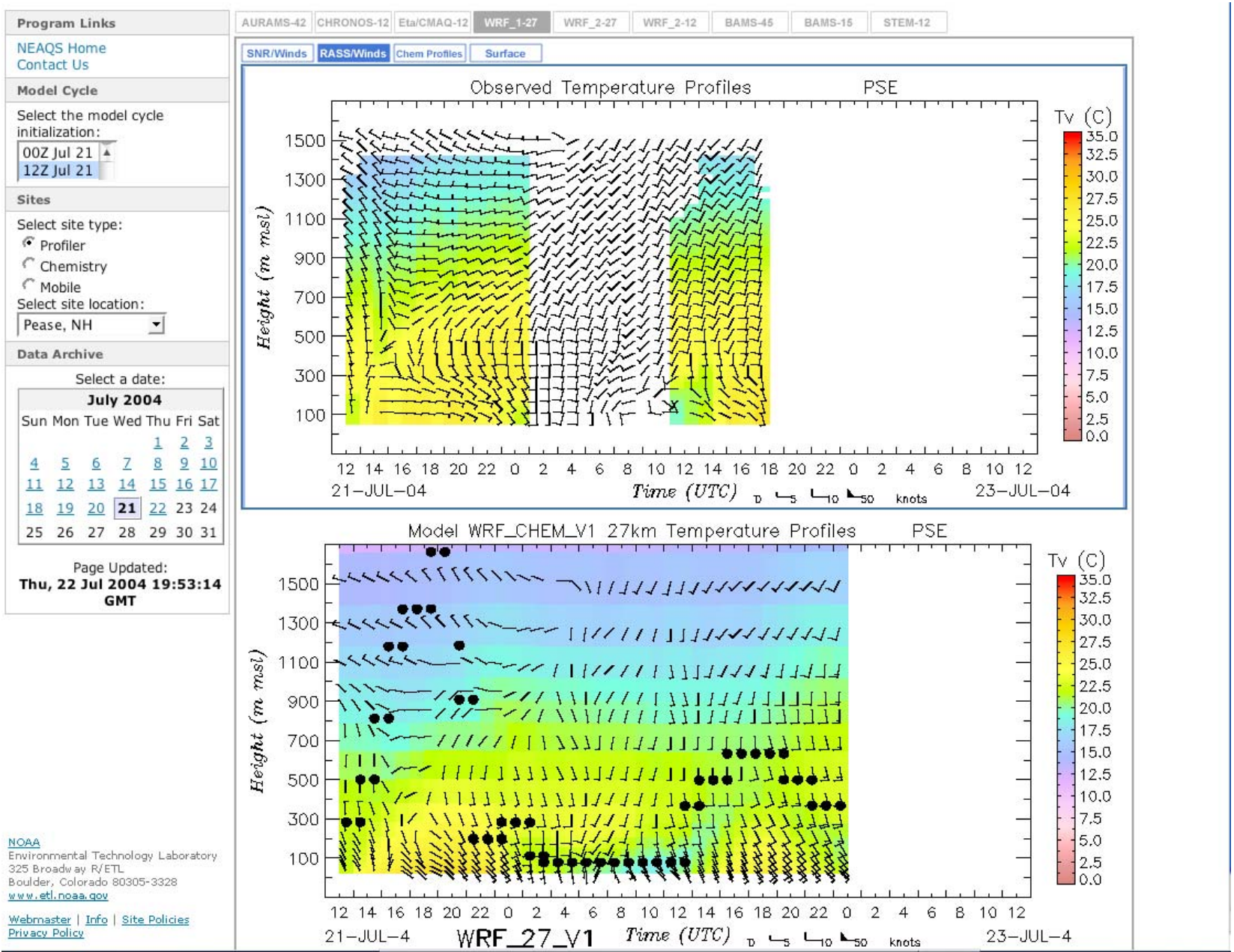
WRF Comparison to Profiler at Pease

v1, 27 km res, 12Z July 21 forecast



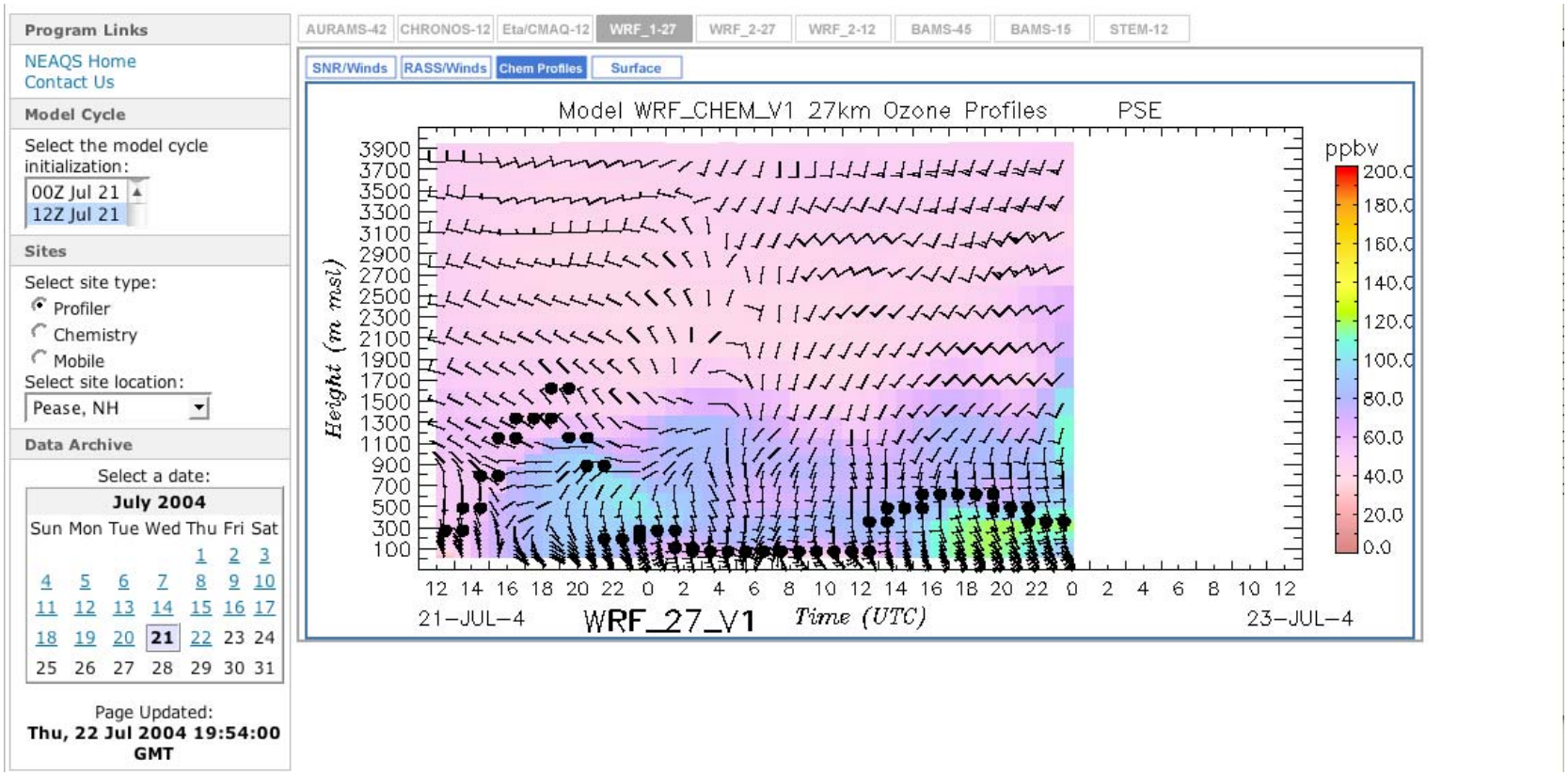
WRF Comparison to RASS Profiler at Pease

v1, 27 km res, 12Z July 21 forecast



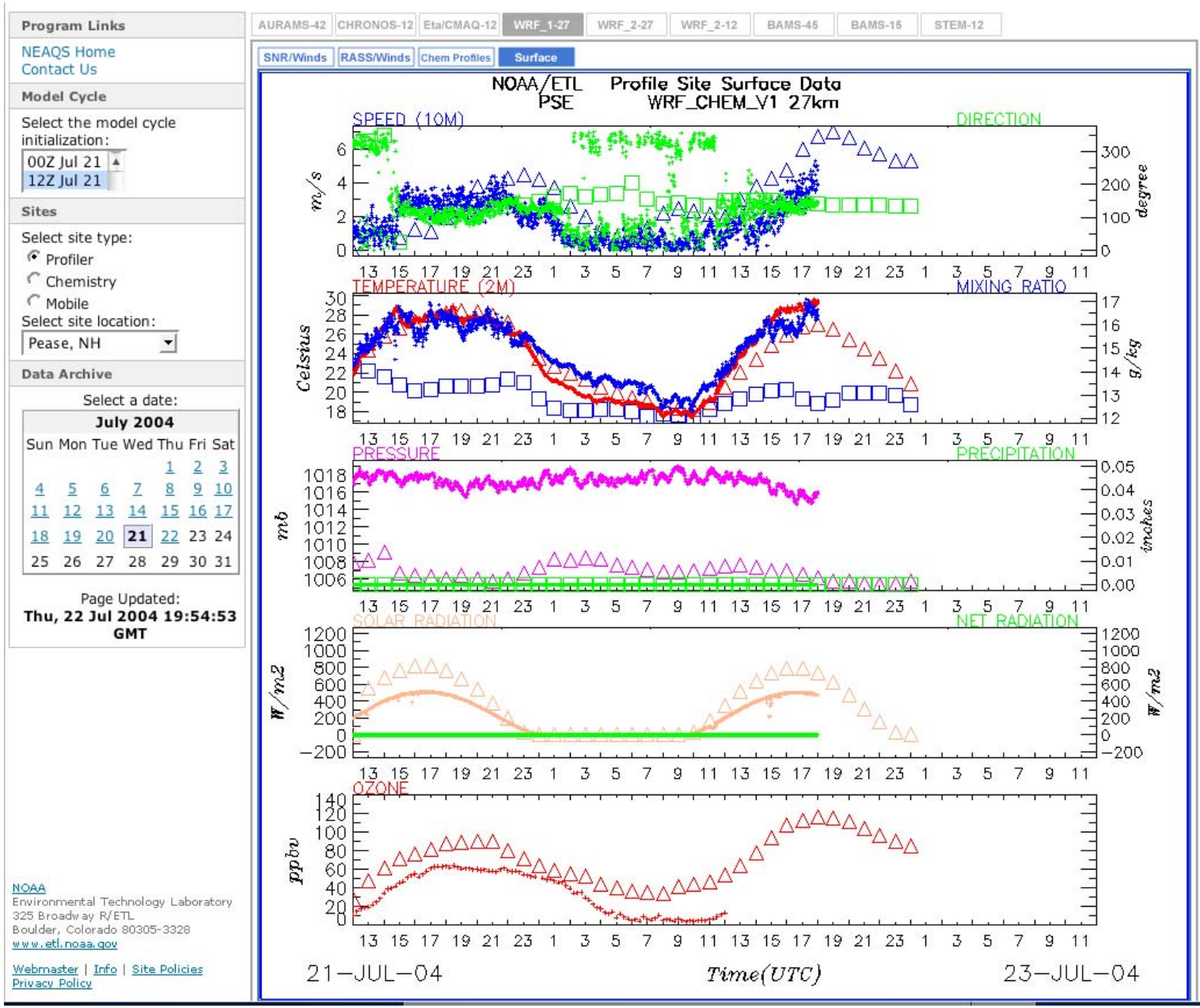
WRF O_3 Profile at Pease

v1, 27 km res, 12Z July 21 forecast



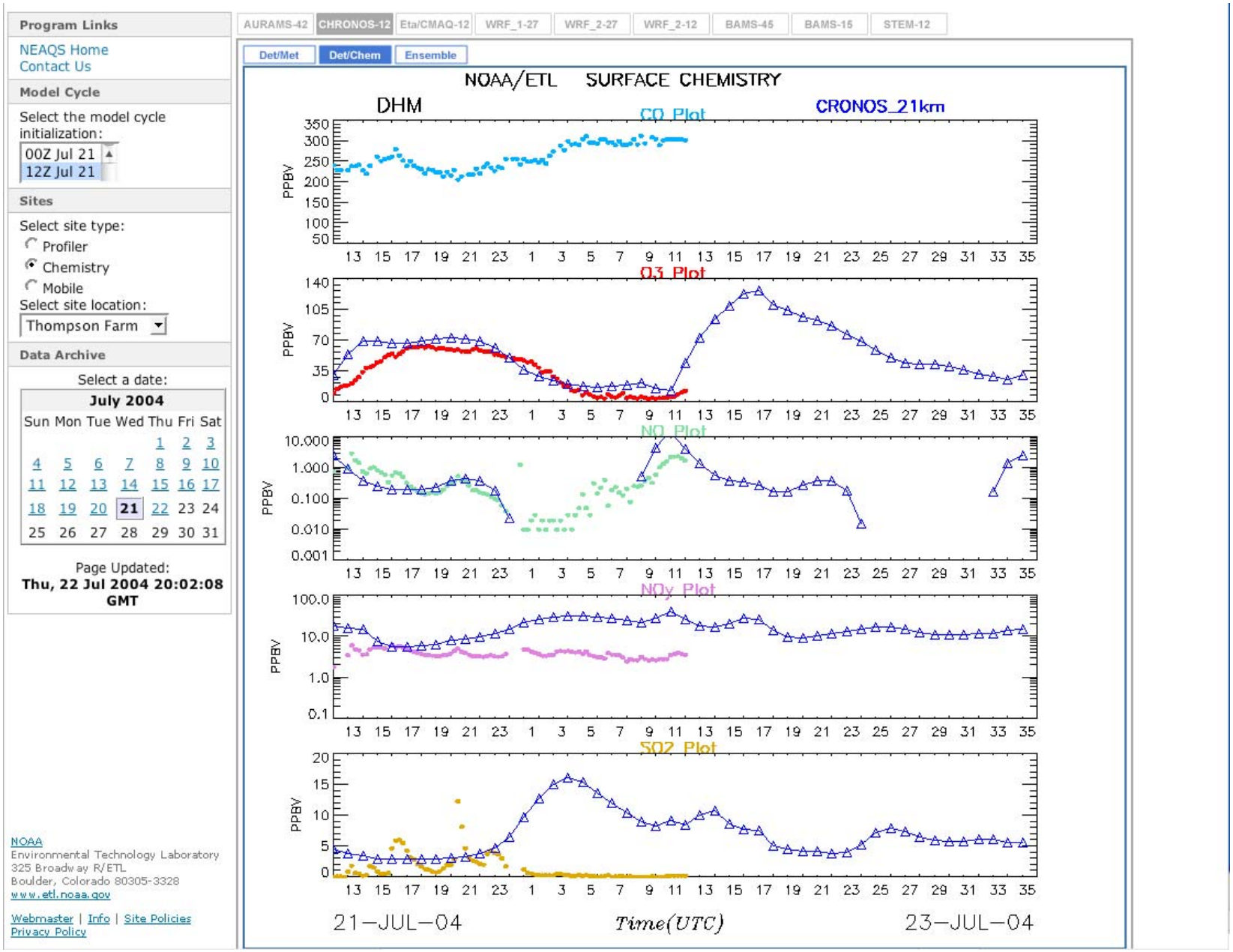
WRF Comparison to Surface Met Obs at Pease

v1, 27 km res, 12Z July 21 forecast



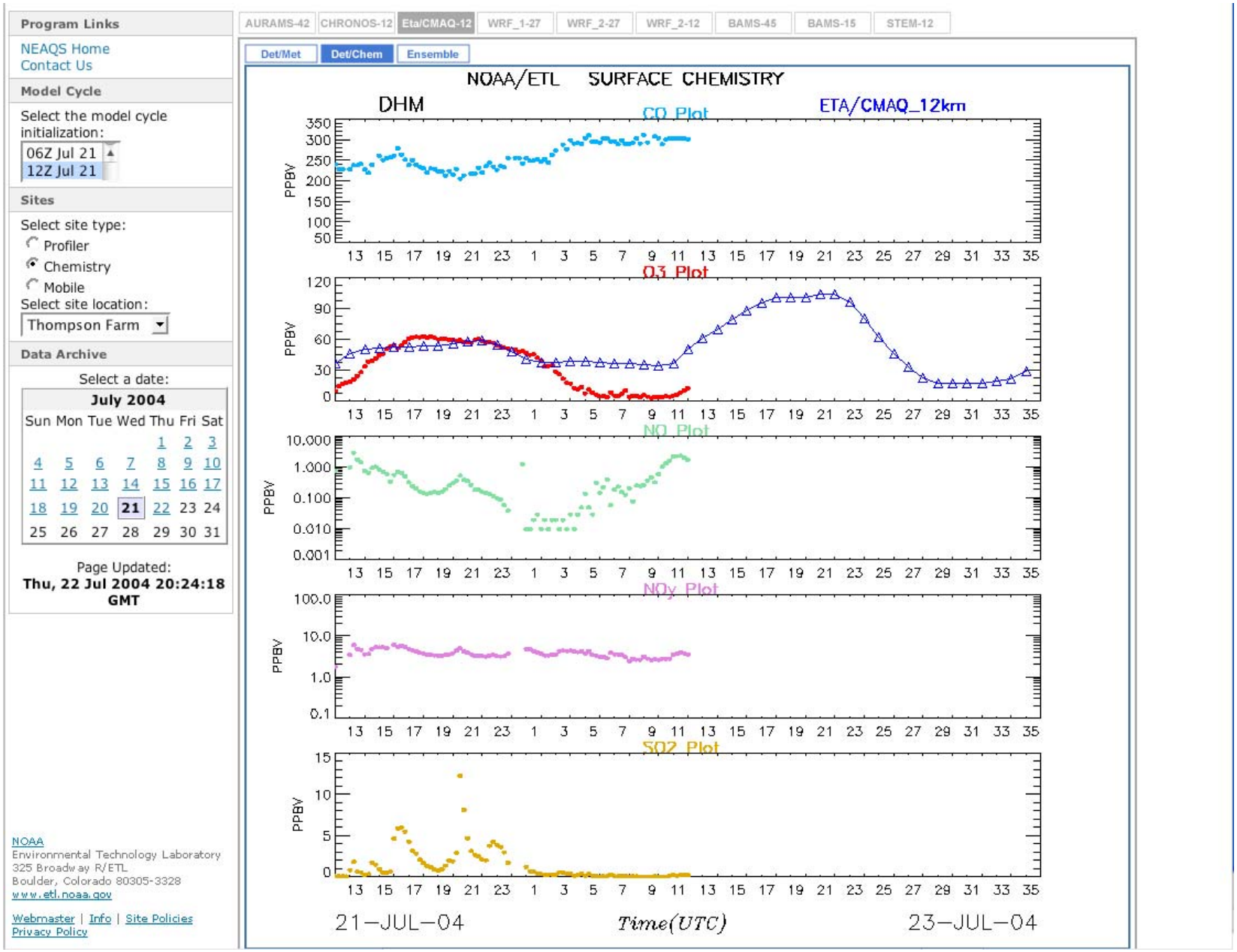
CHRONOS Comparison to Chem Obs at Thompson Farm

21 km res, 12Z July 21 forecast



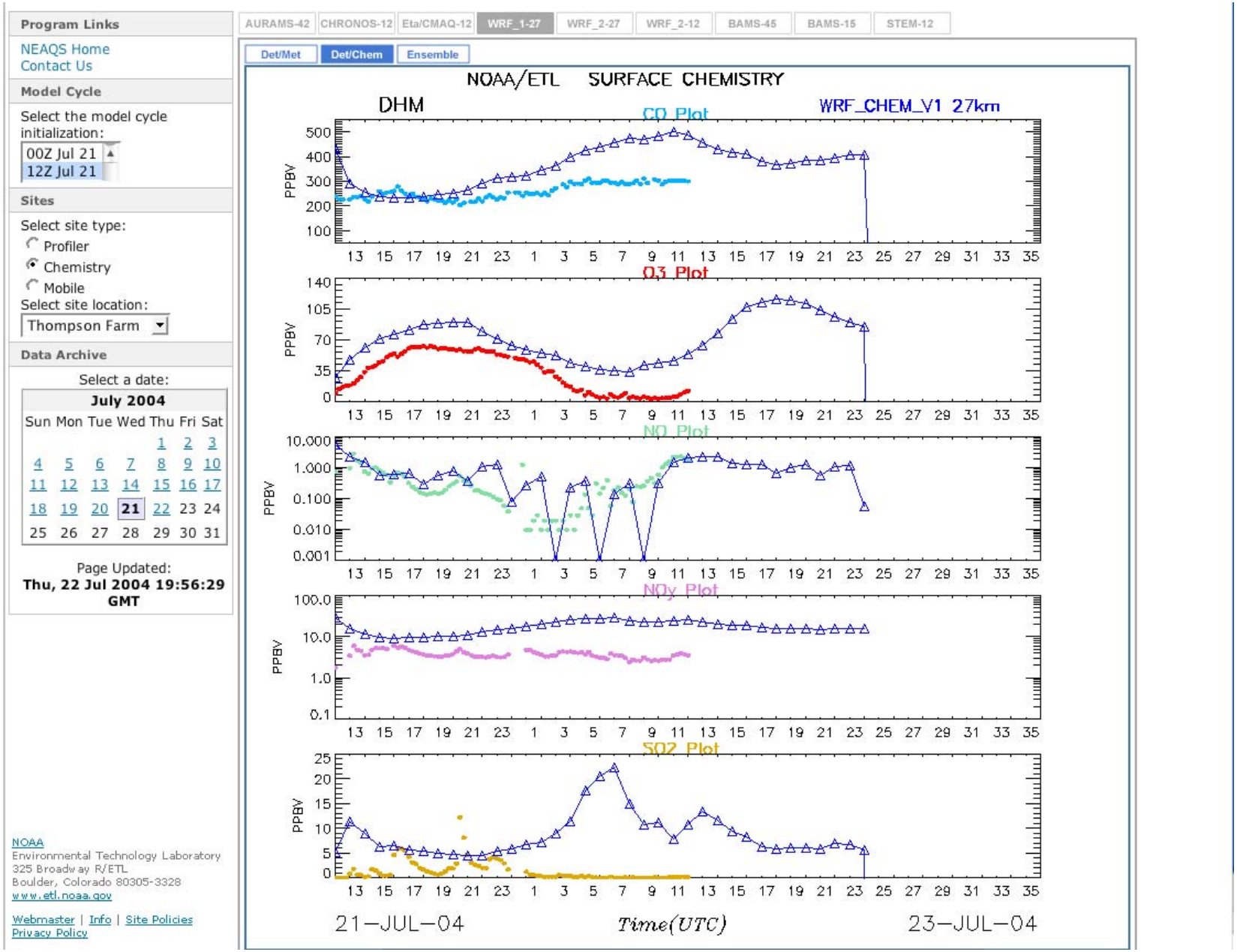
Eta/CMAQ Comparison to Chem Obs at Thompson Farm

12 km res, 12Z July 21 forecast



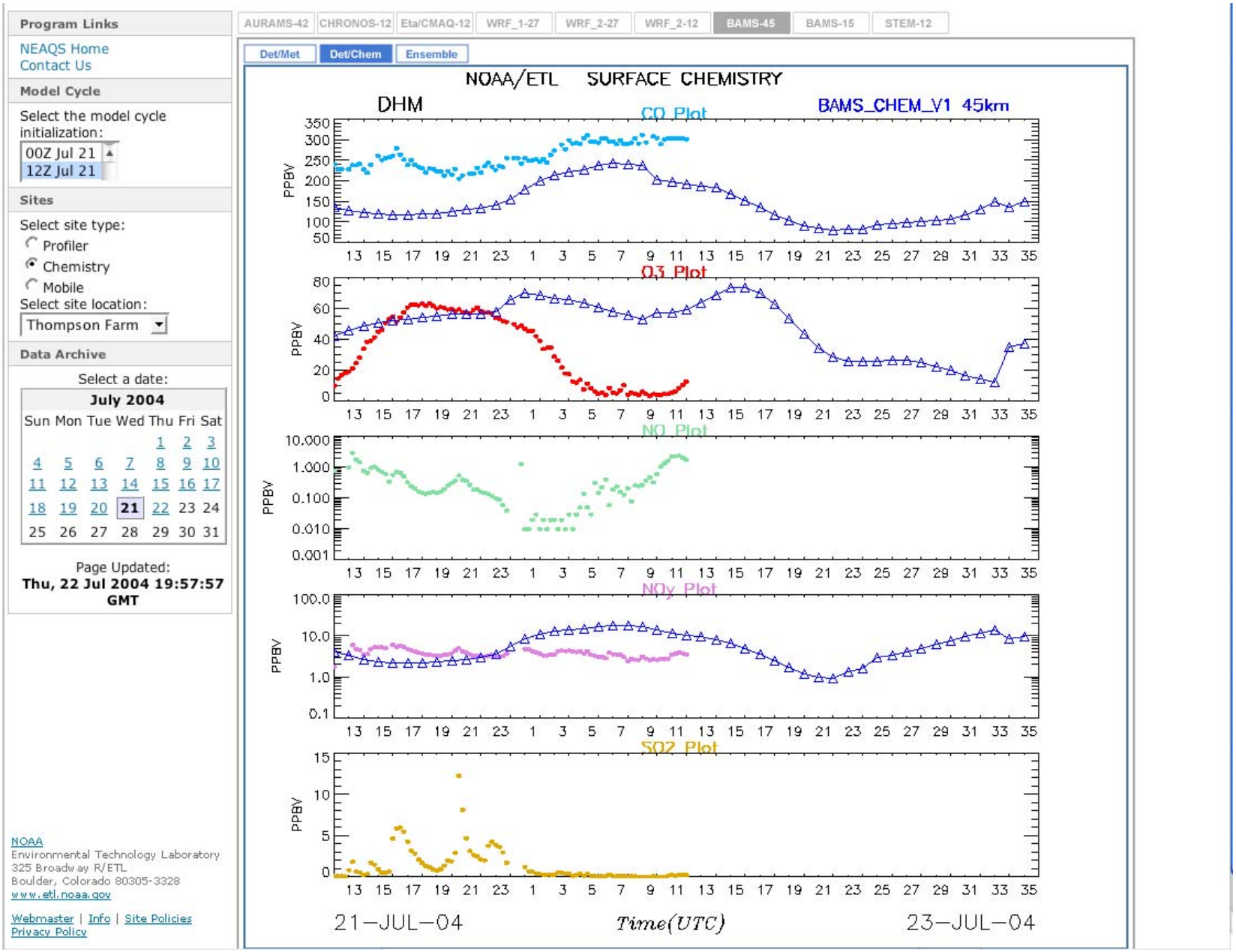
WRF Comparison to Chem Obs at Thompson Farm

v1, 27 km res, 12Z July 21 forecast



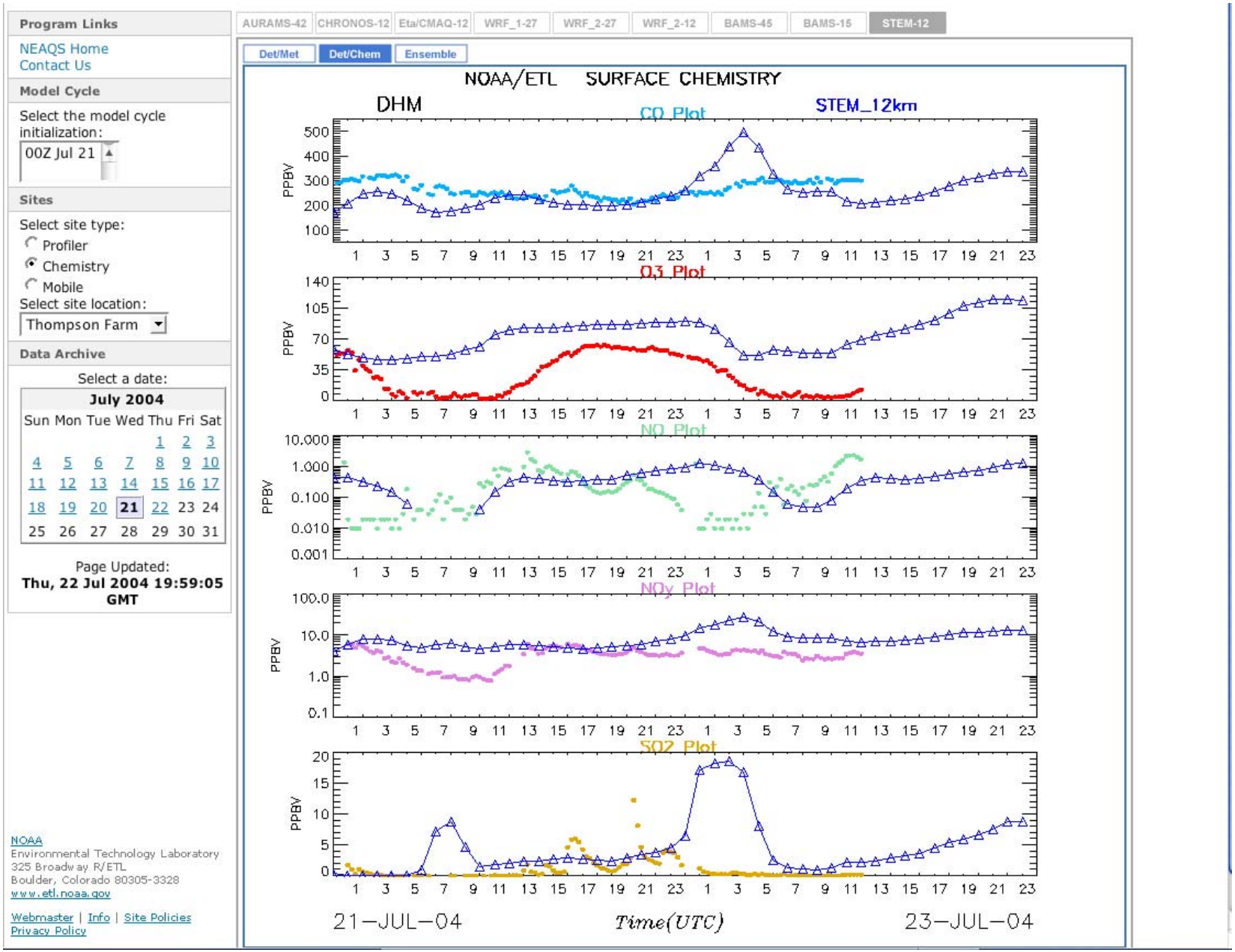
BAMS Comparison to Chem Obs at Thompson Farm

45 km res, 12Z July 21 forecast



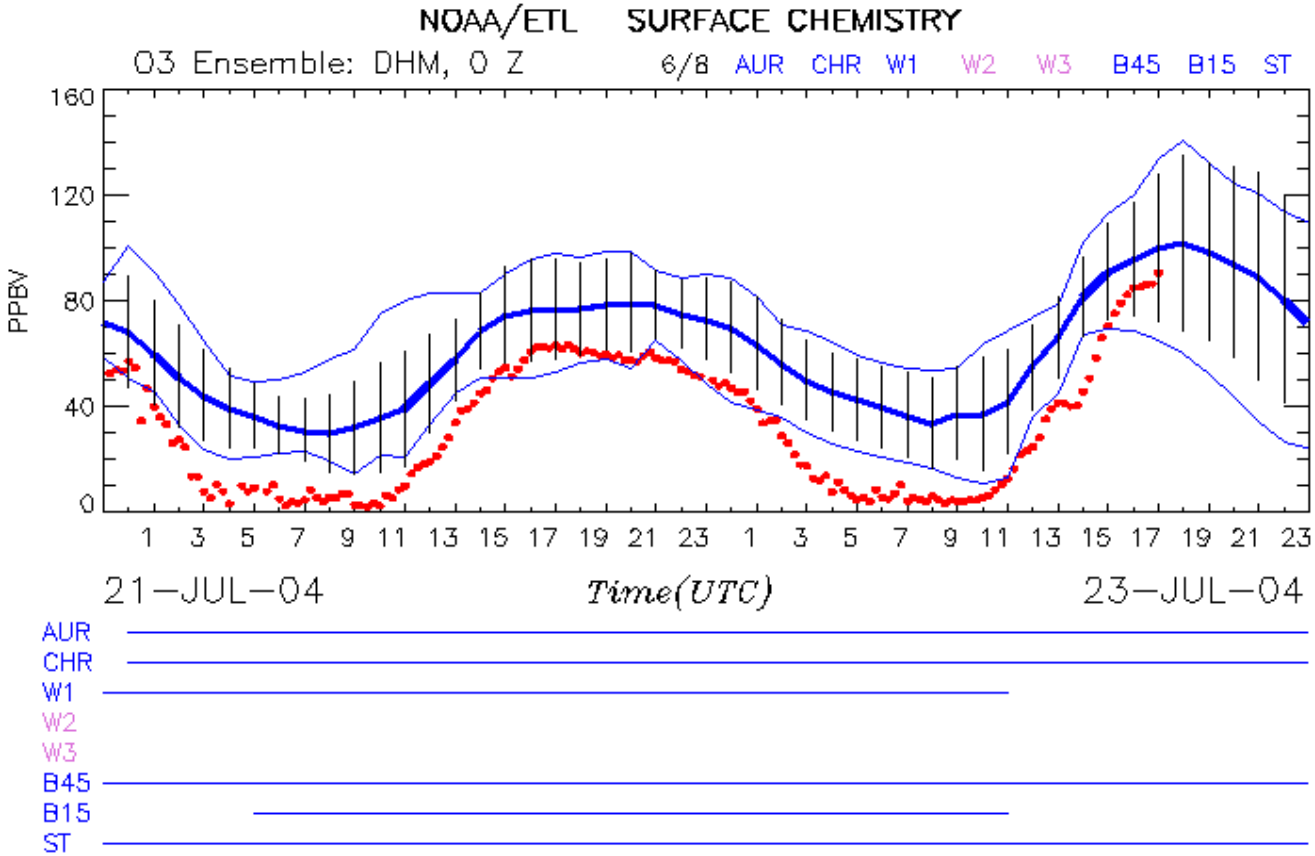
STEM Comparison to Chem Obs at Thompson Farm

12 km res, 0Z July 21 forecast



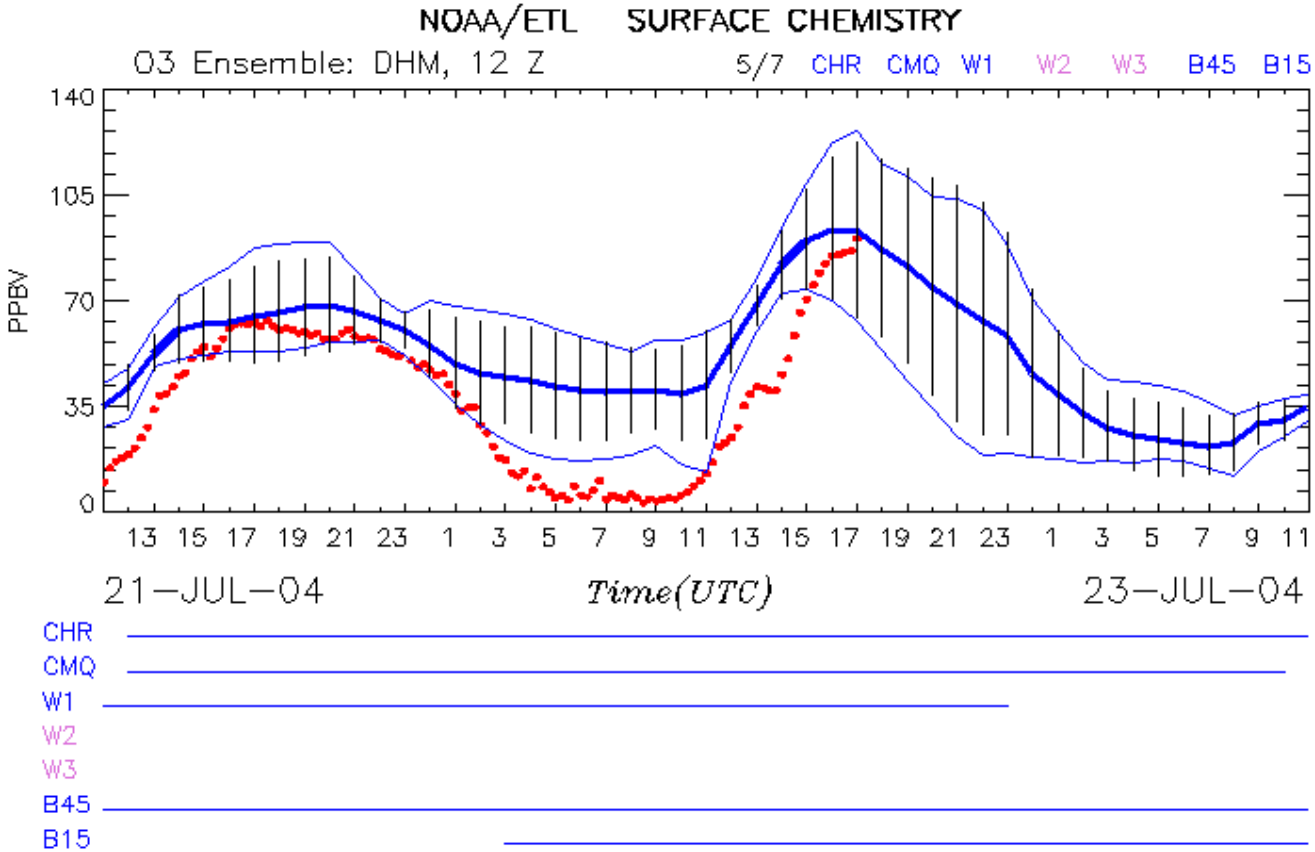
Ensemble Model Comparison to Obs O_3 at Thompson Farm

0Z July 21 forecasts



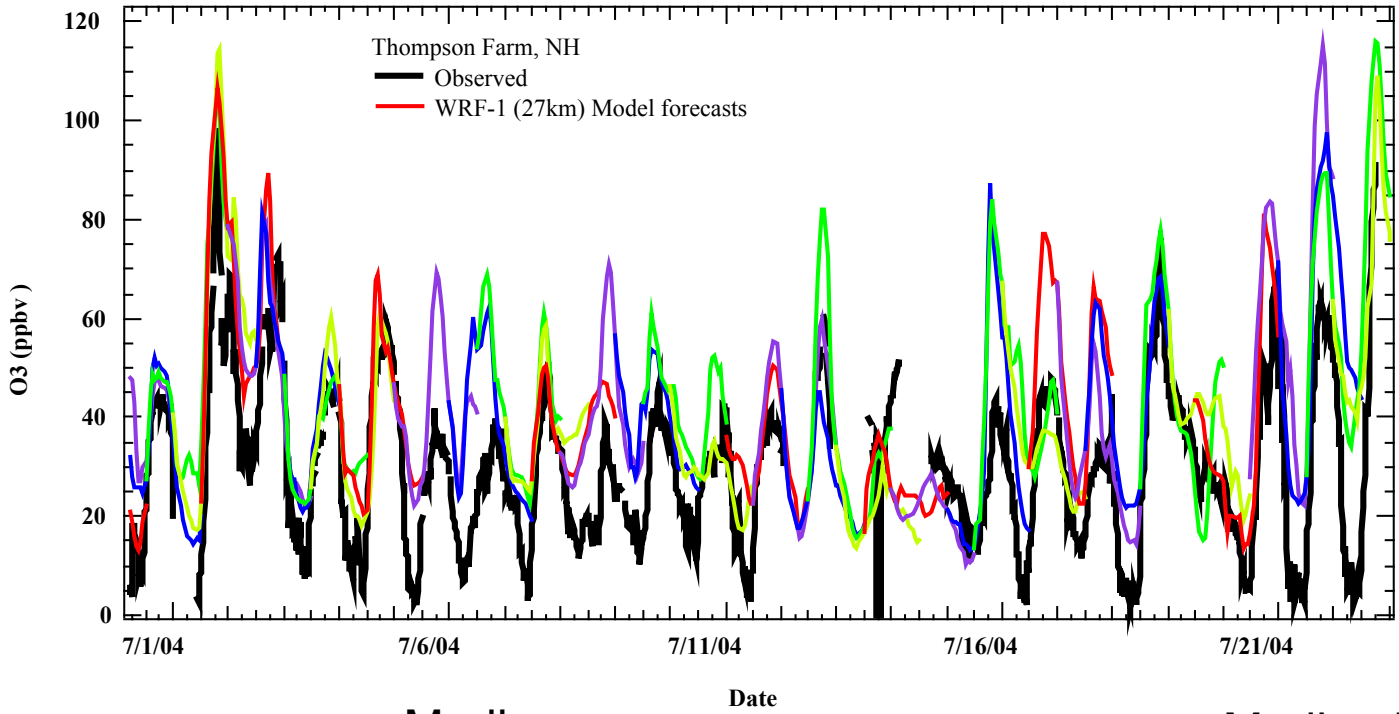
Ensemble Model Comparison to Obs O_3 at Thompson Farm

12Z July 21 forecasts



Model Statistics - Thompson Farm (6/30/04 - 7/22/04)

Statistics for 11am - 7pm LDT, 00Z forecasts only



O_3	r^2	Median bias
BAMS-15	0.65	0.5 ppb
BAMS-45	0.58	5.3 ppb
WRF1-27	0.48	12.3 ppb
AURAMS-42	0.37	26.5 ppb
CMAQ-12	0.36	9.9 ppb
STEM-12	0.32	18.3 ppb
CHRONOS-21	0.27	17.5 ppb

NO_y	r^2	Median bias (ratio)
STEM-12	0.62	1.47
BAMS-45	0.59	1.04
CHRONOS-21	0.54	2.05
WRF1-27	0.43	3.89
BAMS-15	0.42	1.73
AURAMS-42	0.09	2.27

Ron Brown Data Visualization

https://tropchem.al.noaa.gov/NEAQSITCT2k4RHB

NOAA Platform Operational Information

Home | NEAQS-ITCT 2004 P3 | NEAQS-ITCT 2004 RHB | NEAQS 2002 RHB

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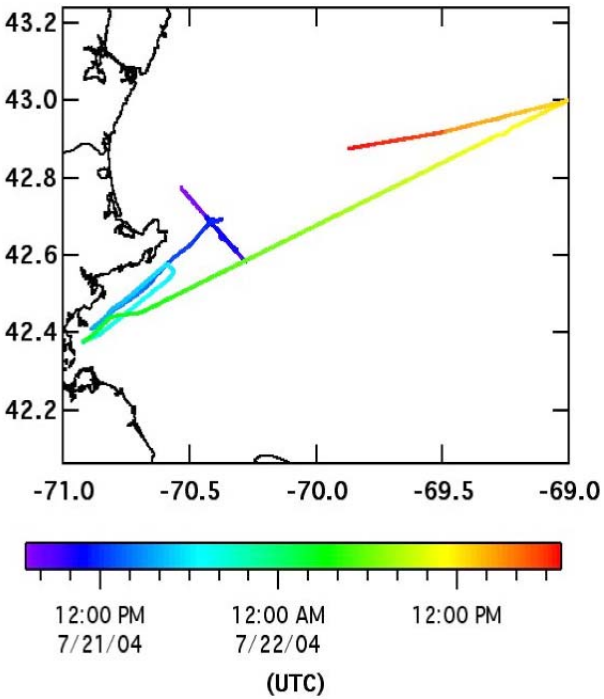
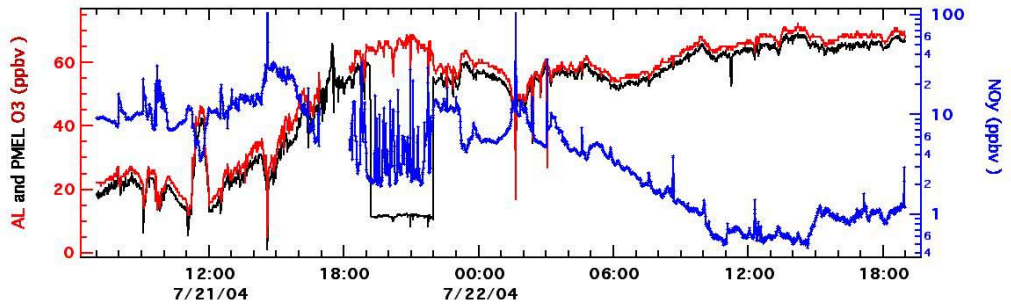
For questions about this site contact Donna Sueper
Last modified

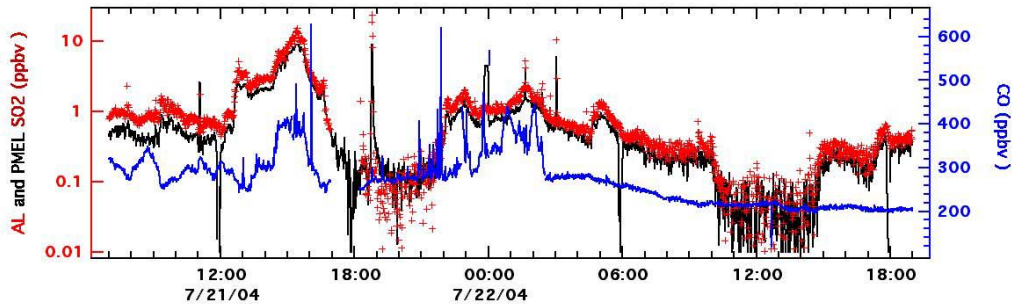
Data Plots
Select a cruise day

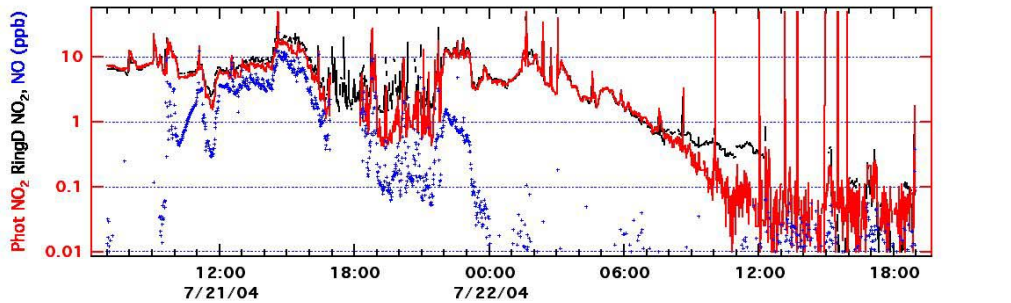
Current conditions
Map - Meteorology - Chemistry - Aerosol/Radiation

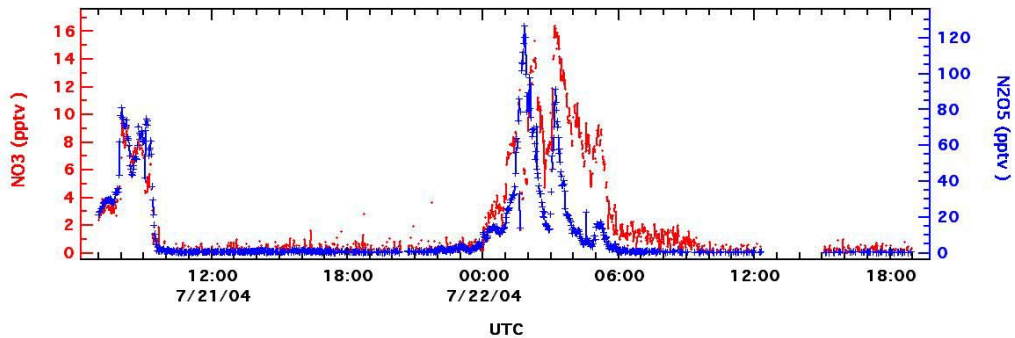
Map











- Also bringing over sonde and wind profiler data
- Where are particle volume obs?

Summary of Model Verification Web Site

Completed
- Surface met and chem
- Profiler met
- Ensemble surface O_3

In progress (~ next 2 weeks)
- Ron Brown comparisons
- Airborne O_3 lidar

Future
- Detailed statistics for met and chem profiles and surface